

Application No.: 10/087,069

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Docket No.: 509982003200

REMARKS

In the Office Action mailed on February 10, 2006, claims 1-52 were rejected. By this Amendment, claims 1, 7, 9, 11, 13, 16, 18, 19, 23, 26, 31-38, and 46-52 have been amended, and claim 24 has been canceled. Applicant respectfully requests reconsideration of pending claims 1-23 and 25-52 in view of the following remarks.

I. Abstract

The Abstract was objected to as exceeding 150 words in lengths. The abstract has been amended.

II. Specification

Paragraphs [0032], [0033], [0037], and [0045] have been amended to update the status of applications referenced in these paragraphs.

Paragraphs [0028], [0035], and [0043] have been amended to correct typographical errors as suggested by the Examiner.

III. Claim Rejections – 35 USC 101

Claims 51 and 52 were rejected under 35 USC 101 as being directed to non-statutory subject matter. Claims 51 and 52 have been amended to recite a computer readable medium having stored thereon a data structure, which is statutory subject matter.

IV. Claim Rejections – 35 USC 102

Claims 1-9, 11, 13, 16, 18, 19, and 21-52 were rejected under 35 USC 102 as being anticipated by U.S. Patent No. 5,719,796 (the Chen reference). Applicants request reconsideration of this rejection in view of the amendments to the independent claims.

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A. Claims 1, 7, 9, 11, 13, and 16

Claims 1, 7, 9, 11, 13, and 16 have been amended to recite that the calculated signals, which are generated, are simulations of diffraction signals measured using an optical metrology device. Applicants assert that the Chen reference does not disclose or suggest this claim limitation.

In contrast, the "simulated profile" disclosed in the Chen reference is generated from simulation results of a simulation of an actual fabrication process. (See 454 and 458 in FIG. 4; column 7, lines 31-33.) The simulated profile is then compared to a measured data profile. (See 426 and 462 in FIG. 4; column 7, lines 61 – column 8, line 15.) The measured data profile are measurements resulting from a selected fabrication process. (See column 6, lines 4-5.) Vertical dimension data (e.g., oxide growth, gate oxide thickness) and horizontal dimension data (e.g., oxide growth, gate oxide thickness) are the types of measurements resulting from a fabrication process. (See column 6, lines 19-25.)

Thus, the measured data profile and simulated profile are vertical and horizontal dimensions of the structure being formed by the fabrication process. Moreover, the simulated profile is not a simulation of diffraction signals measured using an optical metrology device.

Therefore, Applicants assert that claims 1, 7, 9, 11, 13, and 16 are allowable over the Chen reference.

B. Claims 18, 23, 31, 32, 33, and 38

Claims 18, 23, 31, 32, 33, and 38 have been amended to recite that the calculated diffraction signals are simulations of diffraction signals measured using an optical metrology device. Applicants assert that the Chen reference does not disclose or suggest this claim limitation. Instead, as noted above, the measured data profile and simulated profile disclosed in the Chen reference are vertical and horizontal dimensions of the structure being formed by the fabrication process.

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Therefore, Applicants assert that claims 18, 23, 31, 32, 33, and 38 are allowable over the Chen reference.

C. Claims 26 and 47

Claims 26 and 47 have been amended to recite that the simulated signals are simulations of diffraction signals measured using an optical metrology device. Applicants assert that the Chen reference does not disclose or suggest this claim limitation. Instead, as noted above, the measured data profile and simulated profile disclosed in the Chen reference are vertical and horizontal dimensions of the structure being formed by the fabrication process.

Therefore, Applicants assert that claims 26 and 47 are allowable over the Chen reference.

D. Claims 34-37, 48, 49, and 51

Claims 34-37, 48, 49, and 51 have been amended to recite that the calculated metrology signals are simulations of diffraction signals measured using an optical metrology device. Applicants assert that the Chen reference does not disclose or suggest this claim limitation. Instead, as noted above, the measured data profile and simulated profile disclosed in the Chen reference are vertical and horizontal dimensions of the structure being formed by the fabrication process.

Therefore, Applicants assert that claims 34-37, 48, 49, and 51 are allowable over the Chen reference.

E. Claims 46 and 50

Claims 46 and 50 have been amended to recite that the simulated diffraction signals are simulations of diffraction signals measured using an optical metrology device. Applicants assert that the Chen reference does not disclose or suggest this claim limitation. Instead, as noted above,

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the measured data profile and simulated profile disclosed in the Chen reference are vertical and horizontal dimensions of the structure being formed by the fabrication process.

Therefore, Applicants assert that claims 46 and 50 are allowable over the Chen reference.

F. Claims 2-6, 8, 19, 21, 22, 25, 27-30, 39-45, and 52

Applicants assert claims 2-6, 8, 19, 21, 22, 25, 27-30, 39-45, and 52 are allowable for at least the reason that they depend from allowable independent claims.

V. Claim Rejections – 35 USC 103

Claims 10, 12, 14, 15, 17, and 20 were rejected under 35 USC 102 as being unpatentable over the Chen reference in view of Applicants' admissions. Applicants assert that in view of the arguments set forth above that these claims are allowable for at least the reason that they depend from allowable independent claims.

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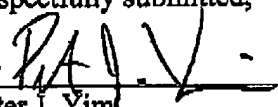
VI. Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509982003200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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